

SCALABLE WDM OPTICAL IP ROUTER ARCHITECTURE

ABSTRACT OF THE DISCLOSURE

[0078] A scalable Wave Division Multiplexing (WDM) optical IP switching method and system are disclosed for switching data packet payloads in the optical domain. The method comprises the steps of: receiving, at an optical switch, one or more optical signals comprising a plurality of optical data packets, wherein each data packet has a payload and header information and wherein each input fiber has at least one input wavelength; extracting the header information from each of the plurality of data packets; converting the header information for each of the plurality of data packets from an optical format to an electrical format; processing the header information for each of the plurality of data packets at a control unit to generate control signals to control data packet payload routing through the optical switch; routing the payload from each data packet through the optical switch to at least one desired switch output; converting the header information for each data packet back to an optical format; and recombining the payload and header information for each data packet for transmission on one or more output fibers from the desired switch output.

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